BENEFITS ANALYSIS DATA

1. Technology Description

A. Please provide a concise ***narrative description*** (no more than one-half page) of the new technology you are proposing, addressing:
- Its function, and benefits to the industrial user of the technology
- The state-of-the-art technology it replaces
- The goal(s) of the project
- Potential limitations or barriers to the technology's application
- Plant modifications necessary to incorporate the technology (Will the technology retrofit an existing system or totally replace existing technology?)
- Known competing technologies (current or emerging)

B. Define ***one unit-year*** of operation (What is a typical process unit? What is the typical unit capacity? (e.g., tons/year/unit, million Btu/year/unit, size of one plant or process using the new process/equipment/model, etc.))

C. Estimate the ***equipment lifetime*** (in years):

D. Will using the technology/process involve a ***retrofit*** of existing technology/process or a ***replacement*** of a unit operation or plant section? (***please explain)***

E. Estimate the ***initial capital cost*** (equipment + installation) of one ***new*** technology unit:_____ and one ***current*** technology unit:_____.

F. Estimate the annual ***non-energy variable costs*** associated with the ***new*** _____and ***current*** _____ technology unit.

2. Market Assessment

A. Estimate ***number of installed units in U.S. market*** (Total number of units or applications that are currently in use.)

B. Estimate ***ultimate potential market share*** (The maximum size of the market, as a percentage, in which the technology or process would be applicable.)

C. Estimate the ***likely technology market share*** (The percentage of the potential market that the technology is likely to capture, given competing technologies, etc.)

D. Estimate the ***year of commercial introduction*** (The year in which you expect the first unit to be in commercial operation.)

E. Estimate the ***time to total market saturation*** (5 to 40+ years)

3. Energy Consumption (*per unit-year of operation)*

Please complete the following table, basing your estimates on one unit-year of operation. As indicated below, physical units are preferred, but you may also provide your estimates in terms of Btu consumed (PLEASE NOTE UNITS AND UNIT SIZE FOR EACH FUEL TYPE, IF DIFFERENT FROM THAT SHOWN IN TABLE).

Fuel Type	New Technology	Current Technology	Comments
Annual Unit Energy Use (in physical units)			
Electricity (million kWh)			
Natural Gas (million cubic feet)			
Petroleum (million barrels)			
Steam Coal (million short tons)			
Black Liquor (thousand tons)			
Other (please specify)			

4. Non-Energy Related Environmental Impacts (*per unit-year of operation)*
Please complete the following table, basing your estimates on **one unit-year** of operation. (PLEASE NOTE UNITS AND UNIT SIZE FOR EACH EMISSION TYPE, IF DIFFERENT FROM THAT SHOWN IN TABLE).

Non-combustion Related Emissions	New Technology	Current Technology	Comments
Annual Non-Combustion Related Emissions (metric tons/unit-year)			
CO_2 (expressed as metric TCE)			
Other greenhouse gases (CH_4, HFCs, CFCs)			
SO_2			
Nox			
Particulates			
VOCs			
Hydrocarbons			
CO			
Toxic (TRI) (please specify)			
Hazardous (non-TRI) (please specify)			
Non-Hazardous Solid Waste (RCRA) (please specify)			
Other (please specify)			

TCE = tons carbon equivalent ($44C0_2/12C$)